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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/709,435

05/05/2004

Atsushi MINE

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10/29/2004

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EXAMINER

CHAN, EMILY Y

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,435

Applicant(s)

MINE ET AL.

Examiner

Emily Y Chan

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hattori et al ('536).

Regarding to claim 1, Hattori et al ('536) disclose an arch type probe in the shape of a half circle arc (see figs 1-2), formed on and supported at one end thereof by a surface of a base plate (1) of a probe card (probe unit), having a first quarter circle arc portion (3 or right portion of the small projection 6) which is supported at one end thereof by the base plate (1) and a second portion (see Fig. 1D, left portion of the small projection 6) which is connected to the other end of the first quarter circle arc and a little shorter than the first quarter circle arc portion, wherein the top portion (6) of the probe is located at almost the center of the probe serves as a contact surface brought into contact with an electrode of the measurement objective (see 2D, 17 and Col. 5, lines 43-47).

Regarding to claim 2, Hattori et al ('536) disclose that a projected contact terminal (small projection 6) is provided at the top portion thereof.

Regarding to claim 3, Hattori et al ('536) disclose that the distal end portion of the second quarter circle arc portion is spherical (see Figs 6A-6B and Col. 7, lines 46-53).

Regarding to claim 4, Hattori et al ('536) disclose coating on the probe lead (2) and the small projection (6) of the their probe (see Col. 10, lines 12-15 and 64) which meets the claimed coating applied on the distal end surface of the distal end portion of the second quarter circle arc portion.

Regarding to claim 5, Hattori et al ('536) disclose material necessary for raising a Young's modulus (see Col. 13, lines 11-13 "metal to be plated probe may be nickel or nickel alloy ... which gives proper rigidity and elasticity to each lead".

Regarding to claim 6, Hattori et al ('536) disclose a probe card (probe unit) being a sensing section of a semiconductor wafer measuring instrument (see Fig 2D and Col. 5, lines 43-53) and having a base plate (1) mounted to a probe.

Regarding to claim 7, Hattori et al ('536) disclose coating (insulated surface) is applied on a portion of a surface of the base plate (1) in contact with the distal end surface of the second quarter circle arc portion (see Col.8, lines 66-67).

Regarding to claims 8-9, Hattori et al ('536) disclose a reinforcing member (see Fig. 10D, 9) with elasticity higher (see Col. 8, lines 60-63 " low melting point") than the arch type probe is provided integrally with the arch type probe on a surface thereof facing the base plate (1) along the length direction (see Col. 12, lines 26-37) and is provided between the base plate (1) and a surface of the arch probe in the other side thereof from the top portion (6) thereof.

Therefore, Hattori et al ('536) anticipate the claimed invention.

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takemoto et al ('127) disclose a probe card (8) with an arch type probe (see Fig 1).

Takemoto et al ('176) disclose a semiconductor device test probe having top portion and a first curve surface and second curve surface. The radius (R1) of the first curve surface is larger than the radius (R2) of the second curve surface (see abstract).

Takayama et al ('783) disclose an arch type probe comprising a reinforcing member.

Maekawa et al ('086) disclose probing apparatus comprising a predetermined Young's modulus and reinforcing member (see abstract).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ec
10-21-04


DAVID ZARNEKE
PRIMARY EXAMINER
10/26/04